

PATENT COOPERATION TREATY

PCT

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INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

REC'D 09 JUN 2004

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Applicant's or agent's file reference ALFB/P27771PC	FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/PEA/416)	
International application No. PCT/GB 03/00044	International filing date (day/month/year) 08.01.2003	Priority date (day/month/year) 08.01.2002
International Patent Classification (IPC) or both national classification and IPC F42B33/06, F42B33/06		
Applicant ALFORD, Sidney C.		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of 5 sheets, including this cover sheet.
- ☒ This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of 2 sheets.

3. This report contains indications relating to the following items:
- I ☒ Basis of the opinion
 - II ☐ Priority
 - III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
 - IV ☐ Lack of unity of invention
 - V ☒ Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
 - VI ☐ Certain documents cited
 - VII ☐ Certain defects in the international application
 - VIII ☐ Certain observations on the international application

Date of submission of the demand 08.07.2003	Date of completion of this report 08.06.2004
Name and mailing address of the international preliminary examining authority:  European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465	Authorized Officer Ziegler, H-J Telephone No. +49 89 2399-2894



**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. **PCT/GB 03/00044**

I. Basis of the report

1. With regard to the **elements** of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17)*):

Description, Pages

1-34 as originally filed

Claims, Numbers

1-8 as originally filed

9-15 received on 19.05.2004 with letter of 18.05.2004

Drawings, Sheets

1/8-8/8 as originally filed

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- ☐ the description, pages:
- ☐ the claims, Nos.:
- ☐ the drawings, sheets:

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5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)).

(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)

6. Additional observations, if necessary:

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	1-15
	No: Claims	
Inventive step (IS)	Yes: Claims	1-15
	No: Claims	
Industrial applicability (IA)	Yes: Claims	1-15
	No: Claims	

2. Citations and explanations

see separate sheet

Re Item V

Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

US-B-5936184 (D1) which is considered to represent the closest prior art shows a disruptor for constituting an explosive charge, the disruptor comprising a container having a projectile and explosive material, the container comprising an enclosure for holding explosive material, said enclosure having a wall.

The problem is to adapt the energy of the disruptive jet to the type of munition easily and precisely.

The solution according to the invention is to make the wall locatable at any of a number of positions.

This solution is not known from the prior art.

In D1 itself the jet power is controlled by different liner materials or chemical additives and the amount of explosive, but there is no such locatable wall defining the enclosure filled with explosive.

DE 3623240 adapts the power by externally mounted parts.

DE 2555649 uses a combination of liner material and liner angle for that purpose, however the wall is always at the same place, at the end of the container.

Hence there is no anticipation of the subject matter of claim 1.

Claims 2-10 are dependent on claim 1 and therefore also fulfil the requirements of Art 33(1), 33(2) and 33(3) PCT.

Claim 11 also includes the novel and inventive features of claim 1.

Claims 12 and 14 have been amended to include the inventive features of "placing/locating a wall of the enclosure at any of a number of locatable positions" like in claim 1.

D1 (fig. 2) shows a disruptor comprising a container having a projectile (37) and an

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enclosure (33) for holding explosive material (35). The skilled person knows that measuring out a quantity of explosive material is absolutely necessary to have predictable results in the operation. Then the explosive is placed in the enclosure. D1 is silent about the manufacture of the charge. In the present application (p.4, l.24), two ways of filling the charge are described as general knowledge. One consists of placing the liner on the prefilled charge (enclosure and explosive). In the present application however, explosive and liner are placed in the disruptor at the same time, and not in sequence, as required by amended claim 12. Thus the method of claim 12 is novel.

No combination of the prior art leads to subject matter of the claim (see above).

In amended claim 14, another method is claimed. Here, first the wall is placed in the enclosure. Then the explosive is filled in until the enclosure is filled. This method is also general knowledge according to the description. D2 (DE2555649) shows a disruptor. Due to the construction of the liner end of this disruptor here only this sequence is possible. The liner cannot be inserted into the enclosure. Best seen in figure 3, there is a corner at the liner end of the tube which prevents the insertion of the liner after filling the tube. However the liner is always placed at the same position in the disruptor. Therefore the subject matter of claim 14 is novel over the prior art.

The construction of the disruptor excludes more or less locating the wall at another position. In consequence the invention as defined in claim 14 is non-obvious.

Hence also the amended claims 12 and 14 and their dependent claims 13 and 15 fulfil the requirements of the PCT.

The invention is industrially applicable.

9. A disruptor according to any preceding claim wherein the projectile is of one of the following shapes:-

- (i) a cone form;
- (ii) a flat disc;
- 5 (iii) a radially symmetric body provided with a spherical, hyperbolic or other concavity;
- (iv) a wedge of V-shaped section.

10. A disruptor according to any preceding claim wherein the projectile is made of one of the following materials:-

- (i) magnesium;
- (ii) zirconium;
- (iii) titanium.

15 11. A kit of parts for a disruptor according to any preceding claim, the kit of parts including a container for a disruptor, a projectile, an enclosure for holding explosive material and having a wall locatable at any one of a number of positions thereby to define the capacity of said enclosure.

20 12. A method of filling a disruptor comprising a container having a projectile and an enclosure for holding explosive material, the method comprising:

measuring out a quantity of explosive material, placing the quantity of explosive material in the enclosure, then placing a wall of the enclosure at any one of a number of locatable positions so that the enclosure is filled with explosive material.

25 13. A method according to Claim 12 wherein the method includes providing one or more spacer elements to hold the wall in one position and so define the enclosure.

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14. A method of filling a disruptor comprising a container having a projectile and an enclosure for holding explosive material, the method
5 comprising locating a wall of the enclosure at any one of a number of locatable positions and then placing explosive material in the enclosure until filled

15. A method according to Claim 14 wherein the method includes
10 providing one or more spacer elements to hold the wall in one position and so define the enclosure.